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## Amendments to the Abstract:

Please replace the Abstract with the following amended Abstract:

A method and system of is provided for compensating for imbalance in a data storage disc stack during assembly of the data storage device. The method introduces an An optical measurement system downstream of the disc clamp installation operation. The system measures multiple one or more parameters of a most recent N incoming predetermined sample of disc-stacks produced on the assembly line, where N is a suitable sample size, such as 30 disc stacks. The measured parameters can comprise disc clamp offset, clamp offset angle, and ring outer diameter. After measuring parameters for a suitable sample size N, the optical system calculates a dynamic or moving average of the most recent N disc stack component offsets and/or offset angles. The calculated averages are then A moving average of the sampled measurements is utilized to determine a component configuration type that will compensate for the any measured disc stack imbalance according to the offset trend. The system then feeds back the clamp configuration type to a clamp installation operation where the configuration type is installed during assembly of the next disc stack.